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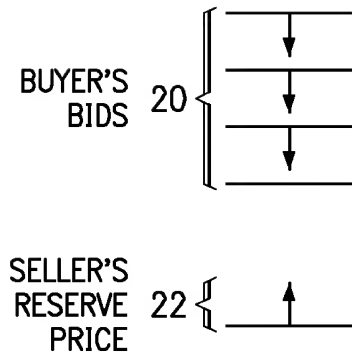


FIG. 1

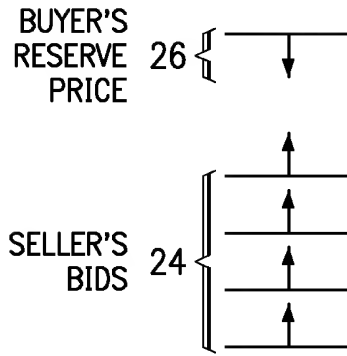


FIG. 2

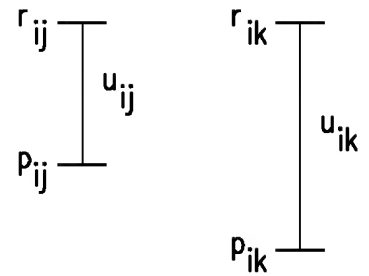


FIG. 3

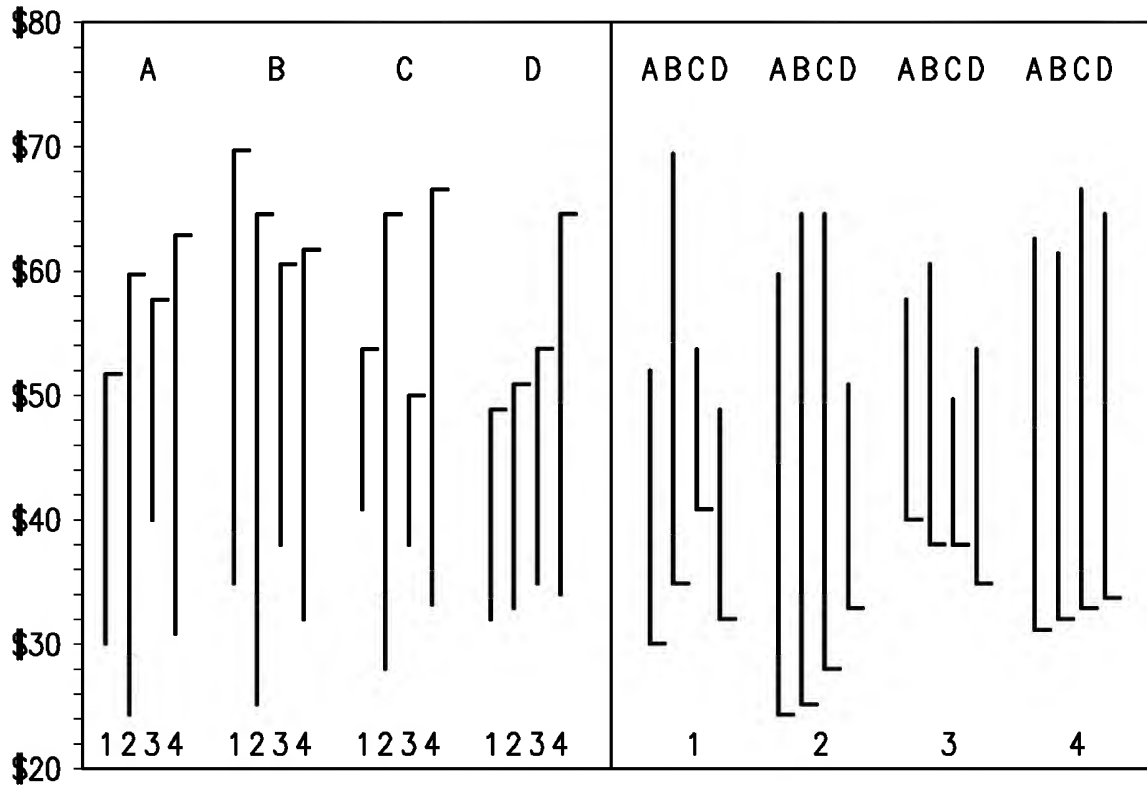


FIG. 4

	BUYERS				LIMIT PRICES				SELLERS			
	1	2	3	4		A	B	C	D			
A	\$52	\$60	\$58	\$63	1	\$30	\$35	\$41	\$31			
B	\$70	\$65	\$61	\$62	2	\$24	\$25	\$28	\$33			
C	\$54	\$65	\$50	\$67	3	\$40	\$38	\$38	\$35			
D	\$49	\$51	\$54	\$65	4	\$31	\$32	\$33	\$34			

FIG. 5

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\Problem name : maxmatch.LP

Maximize

obj: 18 xD2 + 22 xA1 + 17 xD1 + 34 xC4 + 12 xC3 + 37 xC2 + 13 xC1 + 30 xB4  
 + 23 xB3 + 40 xB2 + 35 xB1 + 32 xA4 + 31 xD4 + 18 xA3 + 19 xD3 + 36 xA2

Subject To

b\_A: xA1 + xA4 + xA3 + xA2 <= 1  
 b\_B: xB4 + xB3 + xB2 + xB1 <= 1  
 b\_C: xC4 + xC3 + xC2 + xC1 <= 1  
 b\_D: xD2 + xD1 + xD4 + xD3 <= 1  
 s\_1: xA1 + xD1 + xC1 + xB1 <= 1  
 s\_2: xD2 + xC2 + xB2 + xA2 <= 1  
 s\_3: xC3 + xB3 + xA3 + xD3 <= 1  
 s\_4: xC4 + xB4 + xA4 + xD4 <= 1

Bounds

0 <= xD2 <= 1  
 0 <= xA1 <= 1  
 0 <= xD1 <= 1  
 0 <= xC4 <= 1  
 0 <= xC3 <= 1  
 0 <= xC2 <= 1  
 0 <= xC1 <= 1  
 0 <= xB4 <= 1  
 0 <= xB3 <= 1  
 0 <= xB2 <= 1  
 0 <= xB1 <= 1  
 0 <= xA4 <= 1  
 0 <= xD4 <= 1  
 0 <= xA3 <= 1  
 0 <= xD3 <= 1  
 0 <= xA2 <= 1

End

FIG. 6

\Problem name : selleropt.LP

Maximize

obj: u1 + u2 + u3 + u4

Subject To

total: u1 + u2 + u3 + u4 + uA + uB + uC + uD + uE = 57  
 A\_1: u1 + uA >= 22  
 A\_2: u2 + uA >= 15  
 B\_2: u2 + uB >= 6  
 B\_3: u3 + uB >= 15  
 B\_4: u4 + uB >= 14  
 C\_4: u4 + uC >= 12  
 D\_3: u3 + uD >= 12  
 E\_3: u3 + uE >= 5  
 E\_4: u4 + uE >= 17

End

FIG. 14

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\Problem name : buyeropt.LP

Maximize

obj :  $uA + uB + uC + uD$ 

Subject To

total :  $u1 + u2 + u3 + u4 + uA + uB + uC + uD = 124$ A\_1 :  $u1 + uA \geq 22$ A\_2 :  $u2 + uA \geq 36$ A\_3 :  $u3 + uA \geq 18$ A\_4 :  $u4 + uA \geq 32$ B\_1 :  $u1 + uB \geq 35$ B\_2 :  $u2 + uB \geq 40$ B\_3 :  $u3 + uB \geq 23$ B\_4 :  $u4 + uB \geq 30$ C\_1 :  $u1 + uC \geq 13$ C\_2 :  $u2 + uC \geq 37$ C\_3 :  $u3 + uC \geq 12$ C\_4 :  $u4 + uC \geq 34$ D\_1 :  $u1 + uD \geq 17$ D\_2 :  $u2 + uD \geq 18$ D\_3 :  $u3 + uD \geq 19$ D\_4 :  $u4 + uD \geq 31$ 

End

*FIG. 7*

\Problem name : selleropt.LP

Maximize

obj :  $u1 + u2 + u3 + u4$ 

Subject To

total :  $u1 + u2 + u3 + u4 + uA + uB + uC + uD = 124$ A\_1 :  $u1 + uA \geq 22$ A\_2 :  $u2 + uA \geq 36$ A\_3 :  $u3 + uA \geq 18$ A\_4 :  $u4 + uA \geq 32$ B\_1 :  $u1 + uB \geq 35$ B\_2 :  $u2 + uB \geq 40$ B\_3 :  $u3 + uB \geq 23$ B\_4 :  $u4 + uB \geq 30$ C\_1 :  $u1 + uC \geq 13$ C\_2 :  $u2 + uC \geq 37$ C\_3 :  $u3 + uC \geq 12$ C\_4 :  $u4 + uC \geq 34$ D\_1 :  $u1 + uD \geq 17$ D\_2 :  $u2 + uD \geq 18$ D\_3 :  $u3 + uD \geq 19$ D\_4 :  $u4 + uD \geq 31$ 

End

*FIG. 8*

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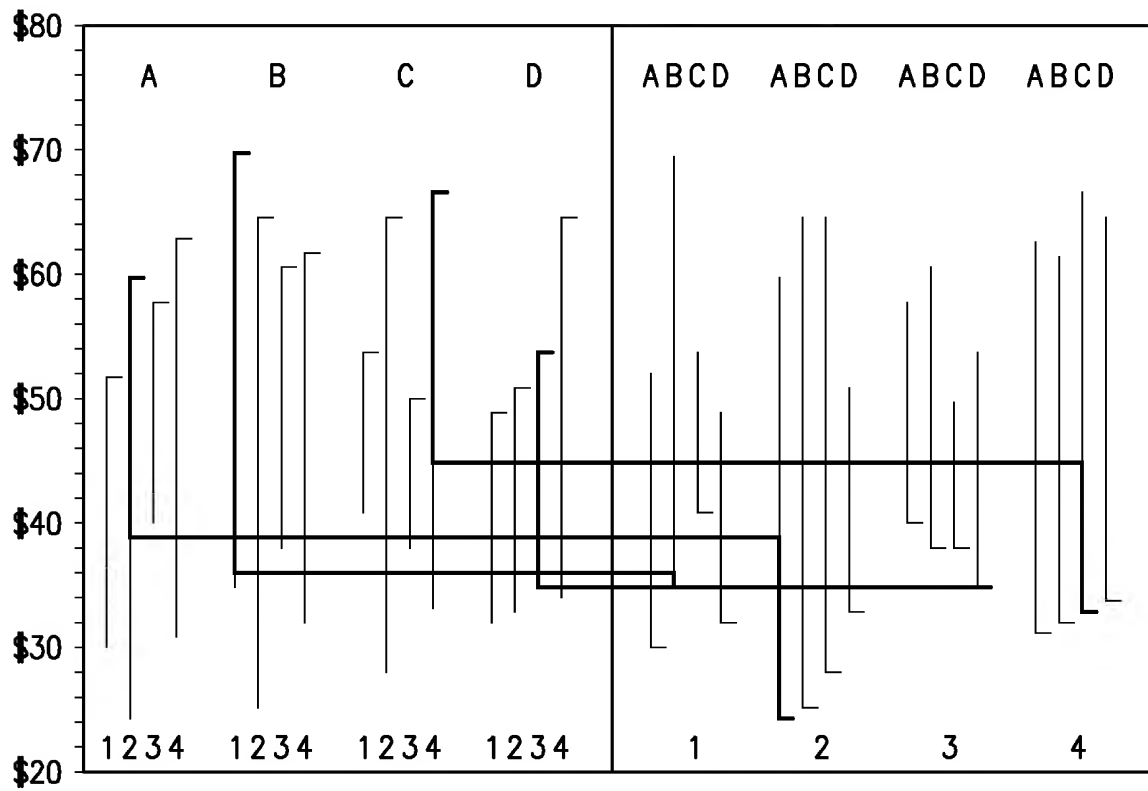


FIG. 9

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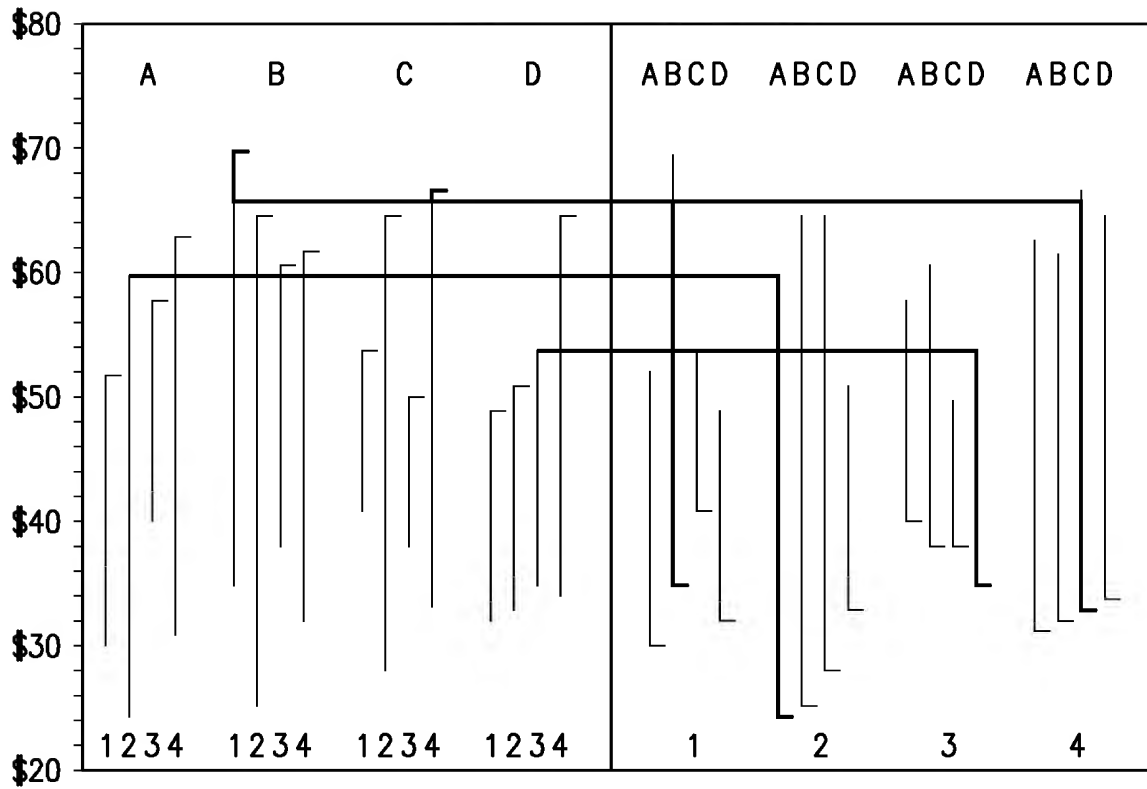


FIG. 10

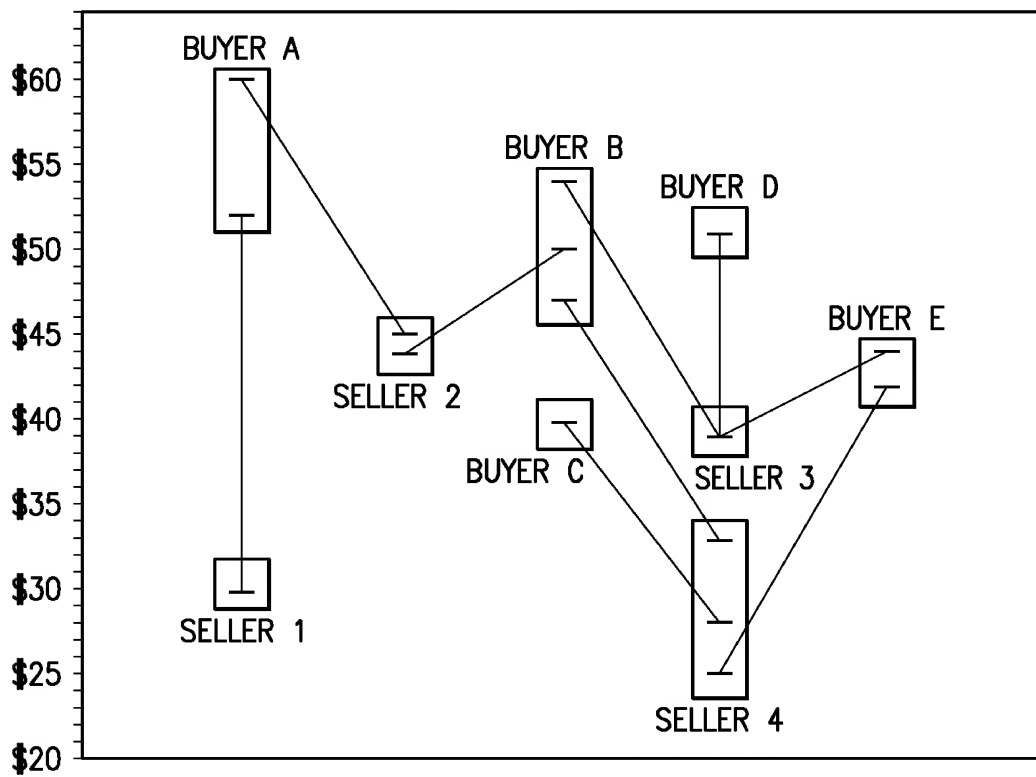


FIG. 11

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\Problem name : maxmatch.LP

Maximize

obj: 17 xE4 + 5 xE3 + 12 xD3  
 + 12 xC4 + 14 xB4 + 15 xB3  
 + 6 xB2 + 15 xA2 + 22 xA1

Subject To

b\_A: xA2 + xA1 <= 1  
 b\_B: xB4 + xB3 + xB2 <= 1  
 b\_C: xC4 <= 1  
 b\_D: xD3 <= 1  
 b\_E: xE4 + xE3 <= 1  
 s\_1: xA1 <= 1  
 s\_2: xB2 + xA2 <= 1  
 s\_3: xE3 + xD3 + xB3 <= 1  
 s\_4: xE4 + xC4 + xB4 <= 1

FIG. 12

Bounds

0 <= xE4 <= 1  
 0 <= xE3 <= 1  
 0 <= xD3 <= 1  
 0 <= xC4 <= 1  
 0 <= xB4 <= 1  
 0 <= xB3 <= 1  
 0 <= xB2 <= 1  
 0 <= xA2 <= 1  
 0 <= xA1 <= 1

End

\Problem name : buyeropt.LP

Maximize

obj: uA + uB + uC + uD + uE

Subject To

total: u1 + u2 + u3 + u4 + uA + uB + uC + uD + uE = 57  
 A\_1: u1 + uA >= 22  
 A\_2: u2 + uA >= 15  
 B\_2: u2 + uB >= 6  
 B\_3: u3 + uB >= 15  
 B\_4: u4 + uB >= 14  
 C\_4: u4 + uC >= 12  
 D\_3: u3 + uD >= 12  
 E\_3: u3 + uE >= 5  
 E\_4: u4 + uE >= 17

FIG. 13

End

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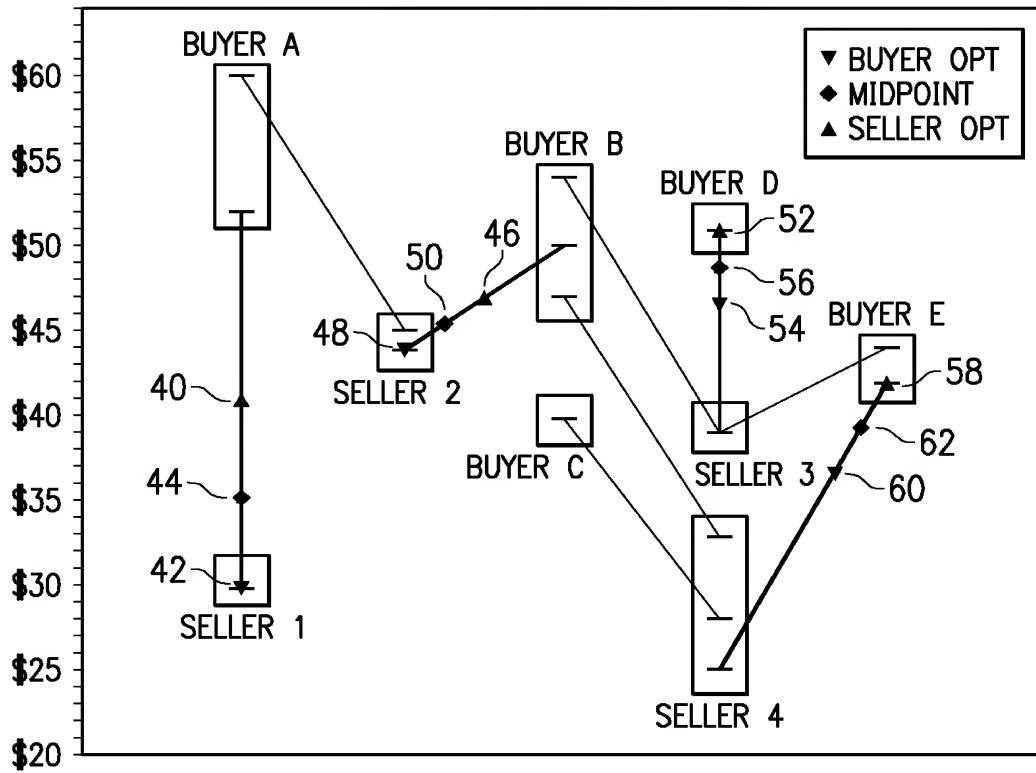


FIG. 15

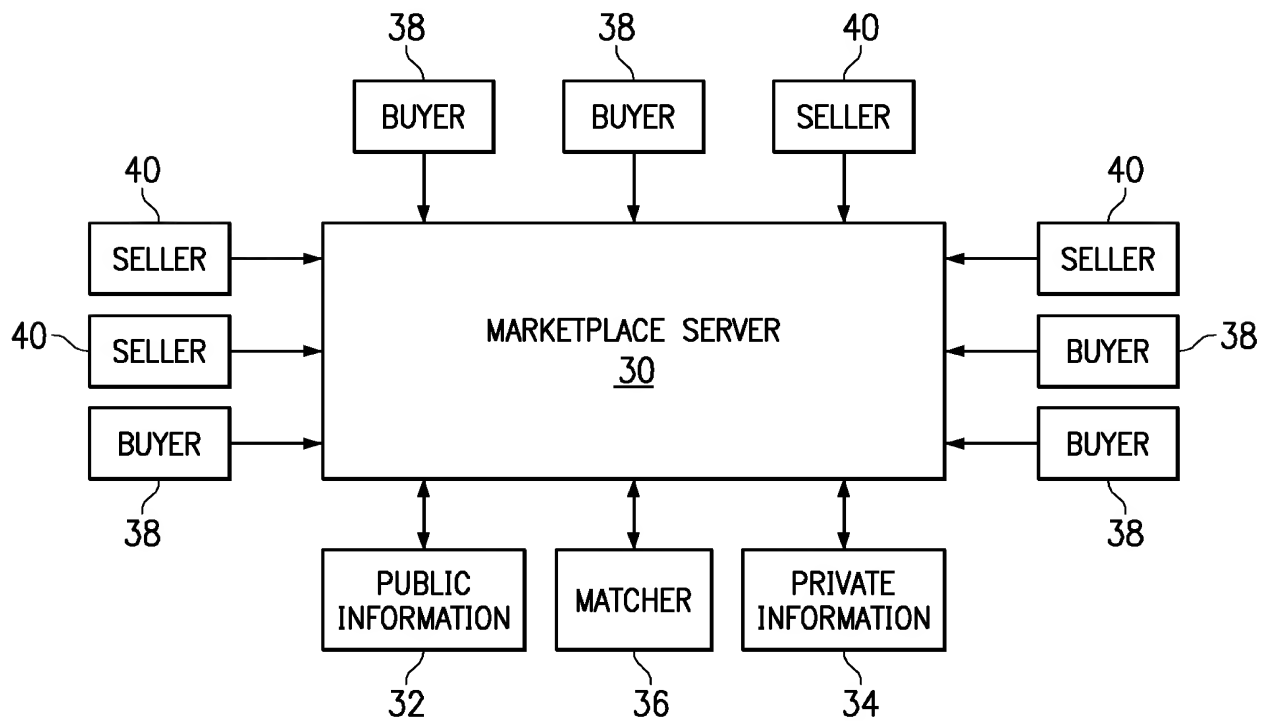


FIG. 16